

Rain bow Hydroelectric Facility,  
Terraced Gardens  
About 850 Feet Southwest of Power house  
Great Falls Vicinity  
Cascade County  
Montana

HAER NO. MT-95-K

PHOTOGRAPHS  
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
Intermountain Support Office - Denver  
National Park Service  
P.O. Box 25287  
Denver, Colorado 80225-0287

## **HISTORIC AMERICAN ENGINEERING RECORD**

### **RAINBOW HYDROELECTRIC FACILITY, TERRACED GARDENS**

#### **I. INTRODUCTION**

HAER No. MT-95-K

**Location:** The terraced gardens are on a southeast trending slope above the site of the former Operators' Camp at the Rainbow Hydroelectric Facility. The left abutment of Rainbow Dam lies about 1200 feet upstream (southwest) of the terraced gardens, while the northwest corner of the Rainbow Powerhouse is about 850 feet downstream (northeast).

**Quad:** Great Falls Northeast, MT (1991)

**UTM:** Zone 12; 485084 Easting; 5264782 Northing (NAD 83)

**Date of Construction:** ca. 1920s/1930s

**Present Owner:** Pennsylvania Power and Light-Montana (PPL-Montana)  
45 Basin Creek Rd., Butte, Montana

**Present Use:** Abandoned

**Significance:** The Rainbow Hydroelectric Facility is one of several discontinuous units comprising the Great Falls Hydroelectric Facilities Historic District. The terraced gardens contribute to the significance of the district for their association with the late nineteenth/early twentieth century practice by utility companies to construct and maintain residential camps for operators and their families at isolated hydroelectric plants. More specifically, the terraced gardens are an important reflection of attempts by residents of the Rainbow Operators' Camp to enhance their everyday lives.

**Historian:** Renewable Technologies, Inc.  
8 W. Park, Suite 313  
Butte, Montana 59701  
September 2009

## II. HISTORICAL AND DESCRIPTIVE DATA

These now-abandoned terraced gardens are located just above (northwest of) the southwest end of the bench that once accommodated the Rainbow Operators' Camp (Figure 1). The three houses (now gone) that stood at this end of the camp were later additions to the facility, with one built in 1925 and the other two in 1930.<sup>1</sup> While not fully verified, the terraced gardens likely were developed by early residents of those houses. From the operators' camp first days of the early 1910s, gardening was an important part of the lives of employees and their families, providing a source of fresh vegetables and fruits for home consumption. These terraced gardens as well as earlier garden plots above the northeast end of the camp continued to see fairly common use into the 1980s.<sup>2</sup>

The terraced gardens essentially consist of three manmade terraces or platforms (Figure 2). The terraces are cut into a southeast facing slope, just uphill (southeast) of the former site of the operators' camp and just downhill (northwest) of the domestic water supply tank at the top of the river terrace. In places they are bolstered by retaining walls made of dry-laid sandstone slabs, mostly 3-4" thick.

The lowest of the three terraces, and the longest, is part of the grade of the railroad switchback used during the Rainbow plant's original construction phase. By 1911, the switchback had been abandoned and the tracks pulled, leaving the rail bed otherwise intact. The "lower terrace" garden today (May 2009) measures 18' wide (southeast-northwest) and about 180' long (southwest-northeast). An approximately 3' tall rock retaining wall runs along the uphill edge of the terrace for its entire length, and beyond to the northeast for about 12' more. Only the northeastern 57' of the terrace's downhill edge, however, is retained by a rock wall. A 3'6" long perpendicular rock wall is at the far end of this downhill retaining wall, and the corner there is the tallest point along the wall at about 20". About 20' southwest of that rock retaining wall, a 14' long plank is exposed in the terrace's downhill edge.

Other structural components observed at the lower terrace include a mostly collapsed fence and a set of stairs. Situated at 60' northeast of lower terrace's southwest end, the fence spans the terrace's 18' width. It has three timber post supports, only one of which is still standing, and two widely-spaced board rails. Chicken wire is strung between the two rails, suggesting the fence use as a support structure for vine-like plants such as tomatoes and beans. The set of stairs is about 30' northeast of the fence where it stands against the lower terrace's uphill retaining wall. It is 2'6" wide and has four 2x12" plank steps between 3x12" plank sidewalls. The stairs provide access between the lower terrace and the garden's middle terrace.

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<sup>1</sup> Montana Power Company, *Insurance Map of Rainbow Montana*, April 1921, revised to 16 December 1964, on file, PPL-Montana, Billings.

<sup>2</sup> Don Periman, telephone interview with Mary McCormick, 15 September 2009. Mr. Periman resided at Rainbow for about 10 years between the early to mid-1970s and early to mid-1980s. He was the most avid gardener at the operators' camp during the time, cultivating a wide assortment of vegetables. He canned much of his produce and stored the fair in the Rainbow plant's old powder magazine (see HAER No. MT-95-N).

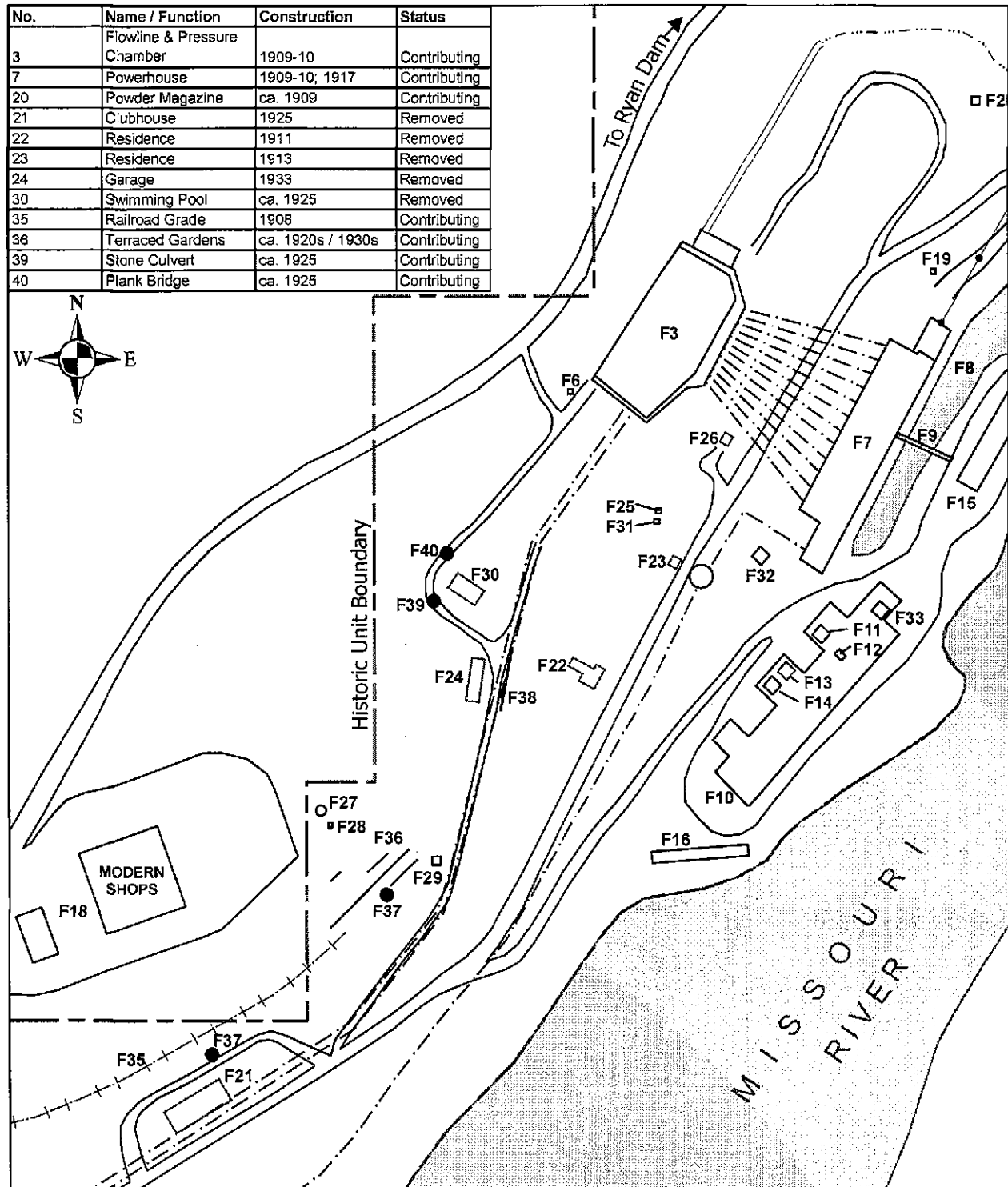


Figure 1. Map of Rainbow Hydroelectric Facility

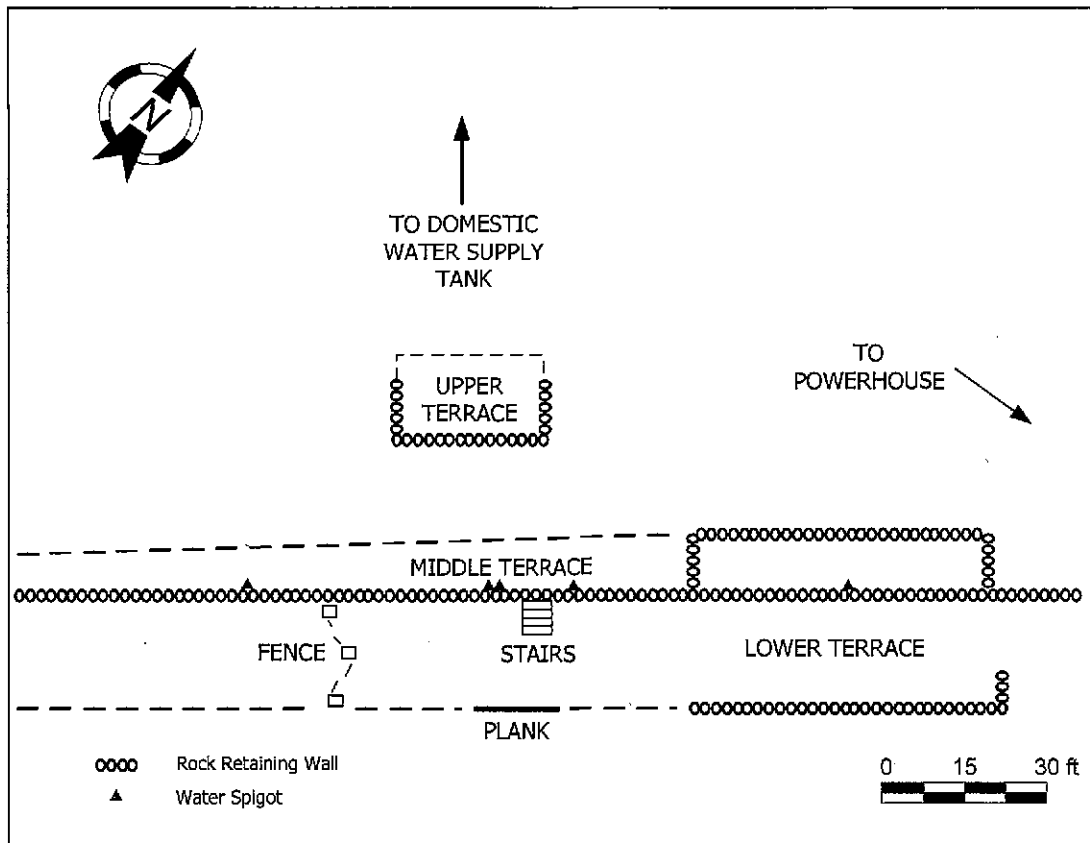


Figure 2. Plan of Terrace Gardens.

The middle terrace is about as long as the lower terrace but only 10-12' wide. The uphill retaining wall of the lower terrace defines its downhill edge, while the middle terrace's uphill edge has a rock retaining wall towards its northeastern end only. This uphill wall measures about 54' long (southwest-northeast), stands 2-3' tall and has downhill-trending rock side walls at each end which extend to the lower terrace's uphill retaining wall. Southwest of the rock walls, the middle terrace continues although its uphill edge is not well defined and its bed slopes slightly. A 2x12" plank lies across the middle terrace near its southwest end. It presumably saw use as a walkway by gardeners.

Components of a watering system are evident at the lower and middle terraces. A 2" water pipe is exposed in places within the rock retaining wall that separates the two terraces (i.e., the lower terrace's uphill wall). A total of six water spigots were observed along its route in 2009; they stand in a row along the middle-terrace side of the retaining wall. The first of those is about 22' above the southwest end of the wall, and the last is about 40' below the wall's northeast end. Most of the six spigots still retain a hose coupling and valve. Water for the system was derived from the domestic water supply tank just above (northwest of) the gardens.

The upper terrace at the garden is about 20' uphill (northwest of) of the middle terrace. It is a comparatively small plot, measuring 27' long (southwest-northeast) by 14' wide (southeast-northwest). A 27' long by 3' tall rock retaining wall defines its downhill edge. The southwest and northwest sides of the plots have rock retaining walls as well, but along their lower 8-9' only. Rhubarb, iris and asparagus still grow on this upper terrace today (2009).

### III. FUTURE OF THE PROPERTY

PPL-Montana plans to remove the terraced gardens at Rainbow. In order to address this impact, the company has sponsored recording the structure to HAER standards.

### IV. BIBLIOGRAPHY

Montana Power Company. *Insurance Map of Rainbow Montana*. April 1921, revised to 16 December 1964. On file, PPL-Montana, Billings.

Periman, Don. Telephone interview with Mary McCormick. 15 September 2009.